



THE PREPAREDNESS REPORT

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Congratulations & Thank you! Details on Page 4

Influenza Antiviral Medication Still Underused

Scott Mize, Influenza Surveillance Coordinator

As we approach the midpoint of what has so far been a severe flu season, the CDC is reminding healthcare providers of its recommendations for the use of influenza antiviral medications, like Tamiflu. The director of the Centers for Disease Control, Dr. Tom Frieden, two media telebriefings since the beginning of December 2014 emphasizing the potential benefits of these medications, particularly for individuals at higher risk of serious complications. Flu vaccination is considered the first line of defense against infection, but proper use of antiviral medications may help prevent thousands of influenza-related hospitalizations each season.

This renewed emphasis from the CDC is in response to higher than average influenza-related hospitalizations this season, especially among those 65 years of age and older. Flu seasons, like this one, in which influenza type A H3N2 is the predominant circulating strain often have higher rates of both influenza-related hospitalizations and deaths.

Influenza antiviral medications are used to:

- Reduce the duration and severity of influenza symptoms, especially when begun within 48 hours of symptom onset
- Prevent influenza infection in exposed individuals if they are at high risk for complications due to age or preexisting medical condition

According to Dr. Frieden, fewer than 1 in 5 high risk patients seeking outpatient treatment for influenza symptoms who could receive influenza antiviral medications actually do, despite the potential benefits.

These medications are only available by prescription and are not appropriate for every patient. You should consult with a healthcare professional before seeking influenza antiviral medication. For more information, visit www.cdc.gov/flu/antivirals/.



North Texas Responds to Ebola

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When the first Ebola patient was diagnosed in the United States, who could have imagined that it would be in the middle of Health Service Region 2/3? With the global awareness of Ebola, we never believed that the first case in the U.S. would be diagnosed right here. As the situation worsened in West Africa during the late summer, we listened to news stories and put together algorithms that we believed would prepare us to respond. When the time came to actually respond, we found ourselves with unique and unexpected challenges. We learned that there is still much to do to prepare for an infectious

disease outbreak of any sort; especially a disease that instills fear in the public as well as responders.

During the first hours of the response public health workers from local, state, and federal agencies worked to trace contacts within the community while healthcare workers provided compassionate care for Eric Duncan and his family. International guidance on PPE proved to be outdated or written for healthcare delivery in countries with limited resources. DSHS supported the Dallas County response initially by deploying staff to the Dallas County Emergency Operations Center. Hazardous waste disposal quickly became an issue, both for the hospital and the community, due to Department of Transportation laws requiring special permits for waste transportation and approval from other states through which that waste would be transported.

At the same time, workers were also busy with contingency planning for the care of additional patients, fatality planning, and community education. Dallas County quickly set up a phone bank manned by Medical Reserve Corp volunteers to answer general public questions. A volunteer-led community education campaign was deployed by Dallas County to the apartment complex where Mr. Duncan lived to provide support to residents. A great deal of planning went into the relocation of Mr. Duncan's family to an undisclosed location after a public health control order was issued to them. It became increasingly difficult to provide for the humanitarian needs of Mr. Duncan's family especially after his condition deteriorated. Without any notification to the media, Mr. Duncan's family was allowed to visit him during the last few hours before his death. Law enforcement from Dallas County Sheriff's Office and City of Dallas Police Department enforced the public health control order as the American Red Cross supplied food and an epidemiology team monitored the exposed family for signs of Ebola. The Texas Funeral Directors Association and the Dallas County Medical Examiner assisted with the fatality management of Duncan after his death.

The North Central Texas Trauma Regional Advisory Council assisted with the response by coordinating a Medical Incident Support Team that drafted EMS guidance for the region, as well as working with the Dallas County Medical Society to disseminate messaging to medical providers regarding diagnosis and care

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for Ebola patients. There were many questions from EMS providers after the media scrutinized decontamination of the ambulance Mr. Duncan was transported in; especially when it became known that there were contacts being monitored for symptoms throughout the region.

Just as the response was winding down, two nurses that provided direct care to Mr. Duncan at Texas Health Presbyterian Hospital became symptomatic and were subsequently diagnosed with Ebola. This proved to be a devastating blow to the hospital; exhausted staff that provided tireless care to their patient who eventually died now had to care for friends and colleagues, as well as monitor themselves for signs of the disease. Faced with employees who were issued public health control orders, as well as limited staff willing to continue to provide care for patients, the hospital made the difficult decision to transfer the ill nurses to hospitals in other states to be treated and allow their staff to begin to heal from the trauma of the response. The transfer phase of the response required coordination with EMS providers for ground transport to the airport; the State Department for air transport of patients; and Dallas/Love Field Airport Emergency Management to accommodate the flights.

This article would not be complete without the mention of Bentley; the adorable King Charles Cavalier Spaniel who was issued his own control order with around-the-clock veterinary care in completing 21 days of symptom monitoring. With donations from animal lovers nationwide, the City of Dallas saw to Bentley's needs with the assistance of the Texas Animal Health Commission and Texas A&M University.



Bentley

Texas has a robust emergency management system guided by the Texas Division of Emergency Management. There will be many more lessons learned as we all work to improve our capability to respond, but North Texas definitely demonstrated our commitment to our citizens by working together. Preparedness is not a single event, but a process that involves continual education and training and ongoing coordination and communication. DSHS Health Service Region 2/3 looks forward to future collaboration with all of the partners who responded to this event. Thank you all for your dedicated and continued service.

EPIDEMIOLOGY BRANCH CASE INVESTIGATION IN REVIEW: FIRST DOCUMENTED CASE OF LEGIONELLOSIS ASSOCIATED WITH WATER BIRTH, UNITED STATES

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In January 2014, HSR 2/3 epidemiologists investigated an infant case of Legionnaires' disease caused by the waterborne pathogen *Legionella pneumophila*. Transmission generally occurs by breathing in small droplets of water containing the bacteria. The child was born without complications in a home water birth setting with the assistance of a certified professional midwife.

Epidemiologic investigation revealed the midwifery center's use of a recreational jetted tub for the birth with internal tubing that can be difficult to disinfect. Water treatment inside the jetted tub included a non-FDA-approved additive with water circulating at 37°C for an extended time. Additionally, the midwifery center did not provide any written procedures for employees or clients to follow before and during the water birth. It is possible the newborn may have aspirated or breathed in very small amounts of water containing the bacteria during or after birth. Recommendations for the midwifery center in this investigation were provided by the DSHS HSR 2/3 epidemiology branch and discussed with professional midwifery organizations for curriculum enhancement and outreach. This first documented case of legionellosis associated with a water birth in the United States was published in the January 2015 edition of Emerging Infectious Disease (http://wwwnc.cdc.gov/eid/article/21/1/14-0846_article).



Image taken from CDC's PHIL (Public Health Image Library) of *Legionella pneumophila*

Water birth is a process in which the mother is immersed in water during any stage of labor or delivery. Water birth has gained popularity recently as it is thought to possibly reduce pain and stress on the mother as well as stress on the child. General risks include infection, inability of the child to properly regulate body temperature, respiratory distress due to aspiration of water including drowning or near drowning.

Legionella infections can be treated effectively with antibiotics in most healthy adults, but the infection may quickly develop into disease which can spread from the lungs into the blood and vital organs. Infants are at a higher risk for serious complications due to their immature immune systems and developing lungs. Respiratory infections are a major cause of illness, hospitalizations and mortality in infants worldwide.

To protect mothers and their infants, it is crucial for healthcare providers to be aware of the potential risk of water birth associated infections and communicate those risks to expectant parents. In addition, standard processes and procedures should be developed for water births so that all healthcare provider types, including midwives, may best safeguard the health of mothers and infants in their care.

